

Work Order ID 107113

Friday, September 20, 2013 2:24:42 PM

107113

Page 1

Item ID: D2170-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bracket

Stop

NS2

Start Date: 9/20/2013 Start Qty: 2.00

2 *4*
2

Cust Item ID:

Required Date: 9/27/2013 Req'd Qty: 2.00

Customer:

Reference:

Approvals: Process Plan: MF

Date: 13-9-20 Tooling: _____ Date: _____

Run Start

NR1

QC: _____

Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2170	N/A

100 0.00

100 FLOW WATER JET

Waterjet

FLOW CNC Waterjet

Memo 0.00

1-Cut as per Dwg

Dwg Rev: N/A

Prog Rev: N/A

2-Deburr if necessary

110 0.00

110 QC

Quality Control

Memo 0.00

4 0 Au
13.09.23

4 0 Au
13.09.23

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

<p>Work Order: _____</p> <p>Part No. _____</p> <p>NCR No. _____</p>	DISPOSITION <input type="checkbox"/> Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved	AGAINST DEPARTMENT/PROCESS <input type="checkbox"/> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other
---	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General		
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions
<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Set-up
<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Weld
<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Wrong Stock Pulled
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Other
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread	
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set	
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration	
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence	

Work Order ID 107113

Friday, September 20, 2013 2:24:42 PM

107113

Page 2

Item ID: D2170-3

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Bracket

Stop

NS2

Start Date: 9/20/2013 Start Qty: 2.00

2

Cust Item ID:

Required Date: 9/27/2013 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC8- Inspect parts - second check

0.00

5
8
8

120

QC

Quality Control

13-9-23

4

140

NC BRAKE

0.00

16
16

140

Brake NC

Brake NC

0.00

16
16

8/27
8/28

2

RJD
8/13/13 by
JRC 09/23
TVA

150

QC5- Inspect part completeness to step on W/O

0.00

13-9-24

150

QC

Quality Control

2

DQA

Stu 2
ab

Date: 13/10/17

Date: 13/10/17

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Work Order update only



Work Order:	<u>107113</u>	DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Part No.	<u>D 2170-3</u>	Rework <input checked="" type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No.	<u>13-3094</u>	Scrap <input checked="" type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input checked="" type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
		Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
		Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Design				2 piece were for test bend	DAS 16 9-89	Scrap + destroy W> replace	SB 13/02/02	DAS 27 13/02/02	DAS 16 9-89	
Doc/Data										
Equip/Tooling										
Handling/Pre										
Material										
Operator	13/02/02	130	2	2 C. Old Parts + Drawings not clear. / Process.	QSI 042 13/02/02				QSI 042 13/02/02	
Offset/Setup										
Process										
Supplier										
Training										
Transport										
Unapproved										
FAULT CATEGORY										
Landing Gear			General							
Bending	Bend	Folio/Program	Outside Dimensions	Pressure/Forced						
Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Set-up						
Cracks	Broken/Damage/Defect	Hardware	Part Incorrect	Temperature/Cure						
Crimp/Kink/Ripple/Wave	Burrs	Inspection Incomplete/Unqualified	Part Lost/Missing	Weld						
Cuffs	Contamination	Instructions Incomplete/Unclear	Part Moved	Wrong Stock Pulled						
Crushing	Countersink	Misaligned/off center	Positioned Wrong							
Heat Treat	Cut Too Short	Mislabeled	Power Loss/Surge							
Inspection Strip in Tube	<input checked="" type="checkbox"/> Drawing	Misread								
Marks/Chatter	Drill Holes	Off-set								
Turning Sequence	Finish	Out of Calibration								
Wave/Twist in Tube	Fit/Function	Out of Sequence								

Work Order ID 107113

Friday, September 20, 2013 2:24:42 PM

107113

Page 3

Item ID: D2170-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bracket

Stop

NS2

Start Date: 9/20/2013 **Start Qty:** 2.00

2

Cust Item ID:

Required Date: 9/27/2013 **Req'd Qty:** 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

**Sequence ID/
Work Center ID**

**Operation
Description**

**Set Up/
Run Hours**

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

**Reject
Qty**

**Reject
Number**

**Insp.
Stamp**

160

Chemical Conversion Coat per QSI005 4.1

0.00

160

HandFinish

Memo

0.00

2 26/09/25

Hand Finishing

170

QC7-Inspect Chemical Conversion Coat

0.00

170

QC

Quality Control

Memo

0.00

2x 23/09/25

180

Identify as per dwg & Stock Location: C-A

0.00

180

Packaging

Memo

0.00

2x 23/09/25

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General									
Bending	<input type="checkbox"/>	Bend	<input type="checkbox"/>	Folio/Program	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>	Pressure/Forced		
Centre Not Concentric	<input type="checkbox"/>	BOM/Route	<input type="checkbox"/>	Grain	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>	Set-up		
Cracks	<input type="checkbox"/>	Broken/Damage/Defect	<input type="checkbox"/>	Hardware	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>	Temperature/Cure		
Crimp/Kink/Ripple/Wave	<input type="checkbox"/>	Burrs	<input type="checkbox"/>	Inspection Incomplete/Unqualified	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>	Weld		
Cuffs	<input type="checkbox"/>	Contamination	<input type="checkbox"/>	Instructions Incomplete/Unclear	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>	Wrong Stock Pulled		
Crushing	<input type="checkbox"/>	Countersink	<input type="checkbox"/>	Misaligned/off center	<input type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>			
Heat Treat	<input type="checkbox"/>	Cut Too Short	<input type="checkbox"/>	Mislabeled	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>	Other		
Inspection Strip in Tube	<input type="checkbox"/>	Drawing	<input type="checkbox"/>	Misread	<input type="checkbox"/>		<input type="checkbox"/>			
Marks/Chatter	<input type="checkbox"/>	Drill Holes	<input type="checkbox"/>	Off-set	<input type="checkbox"/>		<input type="checkbox"/>			
Turning Sequence	<input type="checkbox"/>	Finish	<input type="checkbox"/>	Out of Calibration	<input type="checkbox"/>		<input type="checkbox"/>			
Wave/Twist in Tube	<input type="checkbox"/>	Fit/Function	<input type="checkbox"/>	Out of Sequence	<input type="checkbox"/>		<input type="checkbox"/>			

Work Order ID 107113

Friday, September 20, 2013 2:24:42 PM

107113

Page 4

Item ID: D2170-3

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Bracket

Stop

NS2

Start Date: 9/20/2013 **Start Qty:** 2.00

2

Cust Item ID:

Required Date: 9/27/2013 **Req'd Qty:** 2.00

2

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

**Sequence ID/
Work Center ID**

**Operation
Description**

**Set Up/
Run Hours**

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

**Reject
Qty**

**Reject
Number**

**Insp.
Stamp**

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Quality Control

Memo

0.00

[Signature] / Am 13/09/26

MF
13-9-25

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>		
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>		
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>		
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>			

FAULT CATEGORY

Landing Gear	General			
Bending	Bend	Folio/Program	Outside Dimensions	Pressure/Forced
Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Set-up
Cracks	Broken/Damage/Defect	Hardware	Part Incorrect	Temperature/Cure
Crimp/Kink/Ripple/Wave	Burrs	Inspection Incomplete/Unqualified	Part Lost/Missing	Weld
Cuffs	Contamination	Instructions Incomplete/Unclear	Part Moved	Wrong Stock Pulled
Crushing	Countersink	Misaligned/off center	Positioned Wrong	
Heat Treat	Cut Too Short	Mislabeled	Power Loss/Surge	
Inspection Strip in Tube	Drawing	Misread		Other
Marks/Chatter	Drill Holes	Off-set		
Turning Sequence	Finish	Out of Calibration		
Wave/Twist in Tube	Fit/Function	Out of Sequence		

* Picklist Print

Friday, September 20, 2013 2:24:42 PM

Page 1 /1

Work Order ID: 107113

Parent Item: D2170-3

Parent Item Name: Bracket

Start Date: 9/20/2013

Required Date: 9/27/2013

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 13.09.18 NEW ISSUE DD VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.032 2024-T3 .032 sheet		Purchased	No			100	sf	537.9412	1	2.0018016			

Location	Loc Qty	Loc Code
MAT022	537.9412	
118243	32.3562	
118523	141	
<u>121309</u>	68.656	
123096	27.6	
123574	81.9	
124987	186.429	

121309 → 4.0

Ac 13-09-23

DQA: _____ Date: _____

Date:



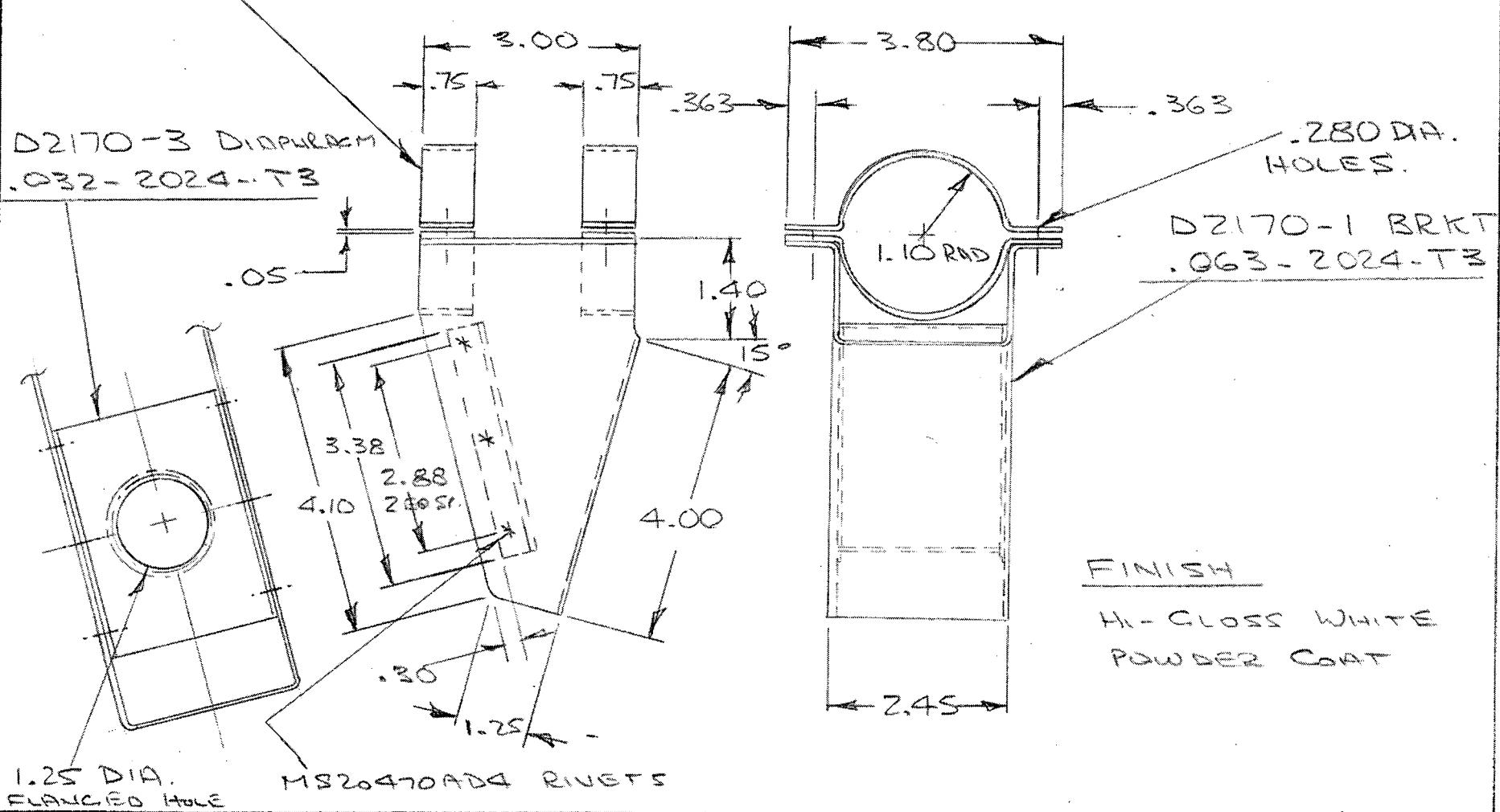
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

D2171 CLAMP (4)

.063 - 304 STAINLESS STEEL



460/5102

REVISION	DRAWN		CONTRACT NO.		DART		DART AERO ACCESSORIES INC.	
APPROVED	DATE	DESIGN	DATE	CLIENT			VANCOUVER	CANADA
REQUIREMENTS - UNLESS OTHERWISE SPECIFIED								
OF CHANGE	DESCRIPTION	GENERAL	LIMITS	STRESS			TITLE	
		1. DIMENSIONS ARE IN INCHES 2. SURFACE ROUGHNESS 1/16 3. REMOVE SHARP EDGES 015 RAD 4. THREADS PER INCH - 5 - 7742 5. HOLES PER AND 10087	1. TOLERANCES - .00 -.030 2. ANGLES 3. PARALLELISM 4. ECCENTRICITY 5. SYMMETRY AND ALL HAVE CENTRE LINE 0.00	CHECKED			STEP BRACKET DETAILS	
				CLIENT			CODE	DWG NO.
							D2170/D2171	
				SCALE	MTS	SHT	REV.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

<p>Work Order: _____</p> <p>Part No. _____</p> <p>NCR No. _____</p>	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>
---	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--	--

DART AEROSPACE LTD	Work Order:	107113
Description: BRACKET	Part Number:	D2170-3
Inspection Dwg: 2170 Rev: N/A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Measured by:	<u>Ak</u>	Audited by:	<u>27</u> <u>09</u>	Preliminary Approval:	
Date:	13.09.23	Date:	13.9.23		Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15